



55382-23.ST25.txt
SEQUENCE LISTING

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<120> METHODS AND COMPOSITIONS FOR DIAGNOSING HEPATOCELLULAR CARCINOMA

<130> 55382-23

<140> US 10/520,322
<141> 2004-12-30

<150> PCT/US03/20841
<151> 2003-07-03

<150> US60/393,982
<151> 2002-07-03

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<170> PatentIn version 3.3

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Gly Leu Ala Gln Ser Asp Thr Ser Pro Asp Thr Glu Glu Ser Tyr Ser
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Asp Trp Gly Leu Arg His Leu Arg Gly Ser Phe Glu Ser Val Asn Ser
35 40 45

Tyr Phe Asp Ser Phe Leu Glu Leu Gly Gly Lys Asn Gly Val Cys
50 55 60

Gln Tyr Arg Cys Arg Tyr Gly Lys Ala Pro Met Pro Arg Pro Gly Tyr
65 70 75 80

Lys Pro Gln Glu Pro Asn Gly Cys Gly Ser Tyr Phe Leu Gly Leu Lys
85 90 95

Val Pro Glu Ser Met Asp Leu Gly Ile Pro Ala Met Thr Lys Cys Cys
100 105 110

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Asn Gln Leu Asp Val Cys Tyr Asp Thr Cys Gly Ala Asn Lys Tyr Arg
115 120 125

Cys Asp Ala Lys Phe Arg Trp Cys Leu His Ser Ile Cys Ser Asp Leu
130 135 140

Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu Ala Ala Cys Asp Ser
145 150 155 160

Leu Val Asp Thr Val Phe Asn Thr Val Trp Thr Leu Gly Cys Arg Pro
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Phe Met Asn Ser Gln Arg Ala Ala Cys Ile Cys Ala Glu Glu Glu Lys
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Glu Glu Leu
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Asp Trp Gly Leu Arg His Leu Arg Gly Ser Phe Glu Ser Val Asn Ser
35 40 45

Tyr Phe Asp Ser Phe Leu Glu Leu Gly Gly Lys Asn Gly Val Cys
50 55 60

Gln Tyr Arg Cys Arg Tyr Gly Lys Ala Pro Met Pro Arg Pro Gly Tyr
65 70 75 80

Lys Pro Gln Glu Pro Asn Gly Cys Gly Ser Tyr Phe Leu Gly Leu Lys
85 90 95

Val Pro Glu Ser Met Asp Leu Gly Ile Pro Ala Met Thr Lys Cys Cys
100 105 110

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Asn Gln Leu Asp Val Cys Tyr Asp Thr Cys Gly Ala Asn Lys Tyr Arg
115 120 125

Cys Asp Ala Lys Phe Arg Trp Cys Leu His Ser Ile Cys Ser Asp Leu
130 135 140

Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu Ala Cys Asp Ser Leu
145 150 155 160

Val Asp Thr Val Phe Asn Thr Val Trp Thr Leu Gly Cys Arg Pro Phe
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Met Asn Ser Gln Arg Ala Ala Cys Ile Cys Ala Glu Glu Glu Lys Glu
180 185 190

Glu Leu

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Tyr Leu Leu Ser Leu Leu Ile Gly Phe Trp Asp Cys Val Thr Cys
20 25 30

His Gly Ser Pro Val Asp Ile Cys Thr Ala Lys Pro Arg Asp Ile Pro
35 40 45

Met Asn Pro Met Cys Ile Tyr Arg Ser Pro Glu Lys Lys Ala Thr Glu
50 55 60

Asp Glu Gly Ser Glu Gln Lys Ile Pro Glu Ala Thr Asn Arg Arg Val
65 70 75 80

Trp Glu Leu Ser Lys Ala Asn Ser Arg Phe Ala Thr Thr Phe Tyr Gln
85 90 95

His Leu Ala Asp Ser Lys Asn Asp Asn Asn Ile Phe Leu Ser Pro
100 105 110

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Leu Ser Ile Ser Thr Ala Phe Ala Met Thr Lys Leu Gly Ala Cys Asn
115 120 125

Asp Thr Leu Gln Gln Leu Met Glu Val Phe Lys Phe Asp Thr Ile Ser
130 135 140

Glu Lys Thr Ser Asp Gln Ile His Phe Phe Phe Ala Lys Leu Asn Cys
145 150 155 160

Arg Leu Tyr Arg Lys Ala Asn Lys Ser Ser Lys Leu Val Ser Ala Asn
165 170 175

Arg Leu Phe Gly Asp Lys Ser Leu Thr Phe Asn Glu Thr Tyr Gln Asp
180 185 190

Ile Ser Glu Leu Val Tyr Gly Ala Lys Leu Gln Pro Leu Asp Phe Lys
195 200 205

Glu Asn Ala Glu Gln Ser Arg Ala Ala Ile Asn Lys Trp Val Ser Asn
210 215 220

Lys Thr Glu Gly Arg Ile Thr Asp Val Ile Pro Ser Glu Ala Ile Asn
225 230 235 240

Glu Leu Thr Val Leu Val Val Asn Thr Ile Tyr Phe Lys Gly Leu
245 250 255

Trp Lys Ser Lys Phe Ser Pro Glu Asn Thr Arg Lys Glu Leu Phe Tyr
260 265 270

Lys Ala Asp Gly Glu Ser Cys Ser Ala Ser Met Met Tyr Gln Glu Gly
275 280 285

Lys Phe Arg Tyr Arg Arg Val Ala Glu Gly Thr Gln Val Leu Glu Leu
290 295 300

Pro Phe Lys Gly Asp Asp Ile Thr Met Val Leu Ile Leu Pro Lys Pro
305 310 315 320

Glu Lys Ser Leu Ala Lys Val Glu Lys Glu Leu Thr Pro Glu Val Leu
325 330 335

Gln Glu Trp Leu Asp Glu Leu Glu Glu Met Met Leu Val Val His Met
340 345 350

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Pro Arg Phe Arg Ile Glu Asp Gly Phe Ser Leu Lys Glu Gln Leu Gln
355 360 365

Asp Met Gly Leu Val Asp Leu Phe Ser Pro Glu Lys Ser Lys Leu Pro
370 375 380

Gly Ile Val Ala Glu Gly Arg Asp Asp Leu Tyr Val Ser Asp Ala Phe
385 390 395 400

His Lys Ala Phe Leu Glu Val Asn Glu Glu Gly Ser Glu Ala Ala Ala
405 410 415

Ser Thr Ala Val Val Ile Ala Gly Arg Ser Leu Asn Pro Asn Arg Val
420 425 430

Thr Phe Lys Ala Asn Arg Pro Phe Leu Val Phe Ile Arg Glu Val Pro
435 440 445

Leu Asn Thr Ile Ile Phe Met Gly Arg Val Ala Asn Pro Cys Val Lys
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Lys Leu Pro Gln Gln Ala Asn Asp Tyr Leu Asn Ser Phe Asn Trp Glu
20 25 30

Arg Gln Val Ser His Ala Lys Glu Lys Leu Thr Ala Leu Thr Lys Lys
35 40 45

Tyr Arg Ile Thr Glu Asn Asp Ile Gln Ile Ala Leu Asp Asp Ala Lys
50 55 60

Ile Asn Phe Asn Glu Lys Leu Ser Gln Leu Gln Thr Tyr Met Ile Gln
65 70 75 80

Phe Asp Gln Tyr Ile Lys Asp Ser Tyr Asp Leu His Asp Leu Lys Ile
85 90 95

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Ala Ile Ala Asn Ile Ile Asp Glu Ile Ile Glu Lys Leu Lys Ser Leu
100 105 110

Asp Glu His Tyr His Ile Arg Val Asn Leu Val Lys Thr Ile His Asp
115 120 125

Leu His Leu Phe Ile Glu Asn Ile Asp Phe Asn Lys Ser Gly Ser Ser
130 135 140

Thr Ala Ser Trp Ile Gln Asn Val Asp Thr Lys Tyr Gln Ile Arg Ile
145 150 155 160

Gln Ile Gln Glu Lys Leu Gln Gln Leu Lys Arg His Ile Gln Asn Ile
165 170 175

Asp Ile Gln His Leu Ala Gly Lys Leu Lys Gln His Ile Glu Ala Ile
180 185 190

Asp Val Arg Val Leu Leu Asp Gln Leu Gly Thr Thr Ile Ser Phe Glu
195 200 205

Arg Ile Asn Asp Val Leu Glu His Val Lys His Phe Val Ile Asn Leu
210 215 220

Ile Gly Asp Phe Glu Val Ala Glu Lys Ile Asn Ala Phe Arg Ala Lys
225 230 235 240

Val His Glu Leu Ile Glu Arg Tyr Glu Val Asp Gln Gln Ile Gln Val
245 250 255

Leu Met Asp Lys Leu Val Glu Leu Thr His Gln Tyr Lys Leu Lys Glu
260 265 270

Thr Ile Gln Lys Leu Ser Asn Val Leu Gln Gln Val Lys Ile Lys Asp
275 280 285

Tyr Phe Glu Lys Leu Val Gly Phe Ile Asp Asp Ala Val Lys Lys Leu
290 295 300

Asn Glu Leu Ser Phe Lys Thr Phe Ile Glu Asp Val Asn Lys Phe Leu
305 310 315 320

Asp Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr His Gln Phe Val
325 330 335

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Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln Arg Leu Asn Gly
340 345 350

Glu Ile Gln Ala Leu Glu Leu Pro Gln Lys Ala Glu Ala Leu Lys Leu
355 360 365

Phe Leu Glu Glu Thr Lys Ala Thr Val Ala Val Tyr Leu Glu Ser Leu
370 375 380

Gln Asp Thr Lys Ile Thr Leu Ile Asn Trp Leu Gln Glu Ala Leu
385 390 395 400

Ser Ser Ala Ser Leu Ala His Met Lys Ala Lys Phe Arg Glu Thr Leu
405 410 415

Glu Asp Thr Arg Asp Arg Met Tyr Gln Met Asp Ile Gln Gln Glu Leu
420 425 430

Gln Arg Tyr Leu Ser Leu Val Gly Gln Val Tyr Ser Thr Leu Val Thr
435 440 445

Tyr Ile Ser Asp Trp Trp Thr Leu Ala Ala Lys Asn Leu Thr Asp Phe
450 455 460

Ala Glu Gln Tyr Ser Ile Gln Asp Trp Ala Lys Arg Met Lys Ala Leu
465 470 475 480

Val Glu Gln Gly Phe Thr Val Pro Glu Ile Lys Thr Ile Leu Gly Thr
485 490 495

Met Pro Ala Phe Glu Val Ser Leu Gln Ala Leu Gln Lys Ala Thr Phe
500 505 510

Gln Thr Pro Asp Phe Ile Val Pro Leu Thr Asp Leu Arg Ile Pro Ser
515 520 525

Val Gln Ile Asn Phe Lys Asp Leu Lys Asn Ile Lys Ile Pro Ser Arg
530 535 540

Phe Ser Thr Pro Glu Phe Thr Ile Leu Asn Thr Phe His Ile Pro Ser
545 550 555 560

Phe Thr Ile Asp Phe Val Glu Met Lys Val Lys Ile Ile Arg Thr Ile
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565

570

575

Asp Gln Met Gln Asn Ser Glu Leu Gln Trp Pro Val Pro Asp Ile Tyr
580 585 590

Leu Arg Asp Leu Lys Val Glu Asp Ile Pro Leu Ala Arg Ile Thr Leu
595 600 605

Pro Asp Phe Arg Leu Pro Glu Ile Ala Ile Pro Glu Phe Ile Ile Pro
610 615 620

Thr Leu Asn Leu Asn Asp Phe Gln Val Pro Asp Leu His Ile Pro Glu
625 630 635 640

Phe Gln Leu Pro His Ile Ser His Thr Ile Glu Val Pro Thr Phe Gly
645 650 655

Lys Leu Tyr Ser Ile Leu Lys Ile Gln Ser Pro Leu Phe Thr Leu Asp
660 665 670

Ala Asn Ala Asp Ile Gly Asn Gly Thr Thr Ser Ala Asn Glu Ala Gly
675 680 685

Ile Ala Ala Ser Ile Thr Ala Lys Gly Glu Ser Lys Leu Glu Val Leu
690 695 700

Asn Phe Asp Phe Gln Ala Asn Ala Gln Leu Ser Asn Pro Lys Ile Asn
705 710 715 720

Pro Leu Ala Leu Lys Glu Ser Val Lys Phe Ser Ser Lys Tyr Leu Arg
725 730 735

Thr Glu His Gly Ser Glu Met Leu Phe Phe Gly Asn Ala Ile Glu Gly
740 745 750

Lys Ser Asn Thr Val Ala Ser Leu His Thr Glu Lys Asn Thr Leu Glu
755 760 765

Leu Ser Asn Gly Val Ile Val Lys Ile Asn Asn Gln Leu Thr Leu Asp
770 775 780

Ser Asn Thr Lys Tyr Phe His Lys Leu Asn Ile Pro Lys Leu Asp Phe
785 790 795 800

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Ser Ser Gln Ala Asp Leu Arg Asn Glu Ile Lys Thr Leu Leu Lys Ala
805 810 815

Gly His Ile Ala Trp Thr Ser Ser Gly Lys Gly Ser Trp Lys Trp Ala
820 825 830

Cys Pro Arg Phe Ser Asp Glu Gly Thr His Glu Ser Gln Ile Ser Phe
835 840 845

Thr Ile Glu Gly Pro Leu Thr Ser Phe Gly Leu Ser Asn Lys Ile Asn
850 855 860

Ser Lys His Leu Arg Val Asn Gln Asn Leu Val Tyr Glu Ser Gly Ser
865 870 875 880

Leu Asn Phe Ser Lys Leu Glu Ile Gln Ser Gln Val Asp Ser Gln His
885 890 895

Val Gly His Ser Val Leu Thr Ala Lys Gly Met Ala Leu Phe Gly Glu
900 905 910

Gly Lys Ala Glu Phe Thr Gly Arg His Asp Ala His Leu Asn Gly Lys
915 920 925

Val Ile Gly Thr Leu Lys Asn Ser Leu Phe Phe Ser Ala Gln Pro Phe
930 935 940

Glu Ile Thr Ala Ser Thr Asn Asn Glu Gly Asn Leu Lys Val Arg Phe
945 950 955 960

Pro Leu Arg Leu Thr Gly Lys Ile Asp Phe Leu Asn Asn Tyr Ala Leu
965 970 975

Phe Leu Ser Pro Ser Ala Gln Gln Ala Ser Trp Gln Val Ser Ala Arg
980 985 990

Phe Asn Gln Tyr Lys Tyr Asn Gln Asn Phe Ser Ala Gly Asn Asn Glu
995 1000 1005

Asn Ile Met Glu Ala His Val Gly Ile Asn Gly Glu Ala Asn Leu
1010 1015 1020

Asp Phe Leu Asn Ile Pro Leu Thr Ile Pro Glu Met Arg Leu Pro
1025 1030 1035

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Tyr Thr Ile Ile Thr Thr Pro Pro Leu Lys Asp Phe Ser Leu Trp
1040 1045 1050

Glu Lys Thr Gly Leu Lys Glu Phe Leu Lys Thr Thr Lys Gln Ser
1055 1060 1065

Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys Lys Asn Lys His Arg
1070 1075 1080

His Ser Ile Thr Asn Pro Leu Ala Val Leu Cys Glu Phe Ile Ser
1085 1090 1095

Gln Ser Ile Lys Ser Phe Asp Arg His Phe Glu Lys Asn Arg Asn
1100 1105 1110

Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu Thr Lys Ile
1115 1120 1125

Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro
1130 1135 1140

Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val
1145 1150 1155

Glu Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val
1160 1165 1170

Phe Pro Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser
1175 1180 1185

Asp Val Arg Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu
1190 1195 1200

Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro
1205 1210 1215

His Phe Lys Glu Leu Cys Thr Ile Ser His Ile Phe Ile Pro Ala
1220 1225 1230

Met Gly Asn Ile Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile
1235 1240 1245

Thr Leu Asn Thr Asn Ala Glu Leu Phe Asn Gln Ser Asp Ile Val
1250 1255 1260

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Ala His Leu Leu Ser Ser Ser Ser Ser Val Ile Asp Ala Leu Gln
1265 1270 1275

Tyr Lys Leu Glu Gly Thr Thr Arg Leu Thr Arg Lys Arg Gly Leu
1280 1285 1290

Lys Leu Ala Thr Ala Leu Ser Leu Ser Asn Lys Phe Val Glu Gly
1295 1300 1305

Ser His Asn Ser Thr Val Ser Leu Thr Thr Lys Asn Met Glu Val
1310 1315 1320

Ser Val Ala Lys Thr Thr Lys Ala Glu Ile Pro Ile Leu Arg Met
1325 1330 1335

Asn Phe Lys Gln Glu Leu Asn Gly Asn Thr Lys Ser Lys Pro Thr
1340 1345 1350

Val Ser Ser Ser Met Glu Phe Lys Tyr Asp Phe Asn Ser Ser Met
1355 1360 1365

Leu Tyr Ser Thr Ala Lys Gly Ala Val Asp His Lys Leu Ser Leu
1370 1375 1380

Glu Ser Leu Thr Ser Tyr Phe Ser Ile Glu Ser Ser Thr Lys Gly
1385 1390 1395

Asp Val Lys Gly Ser Val Leu Ser Arg Glu Tyr Ser Gly Thr Ile
1400 1405 1410

Ala Ser Glu Ala Asn Thr Tyr Leu Asn Ser Lys Ser Thr Arg Ser
1415 1420 1425

Ser Val Lys Leu Gln Gly Thr Ser Lys Ile Asp Asp Ile Trp Asn
1430 1435 1440

Leu Glu Val Lys Glu Asn Phe Ala Gly Glu Ala Thr Leu Gln Arg
1445 1450 1455

Ile Tyr Ser Leu Trp Glu His Ser Thr Lys Asn His Leu Gln Leu
1460 1465 1470

Glu Gly Leu Phe Phe Thr Asn Gly Glu His Thr Ser Lys Ala Thr

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1475

1480

1485

Leu Glu Leu Ser Pro Trp Gln Met Ser Ala Leu Val Gln Val His
1490 1495 1500

Ala Ser Gln Pro Ser Ser Phe His Asp Phe Pro Asp Leu Gly Gln
1505 1510 1515

Glu Val Ala Leu Asn Ala Asn Thr Lys Asn Gln Lys Ile Arg Trp
1520 1525 1530

Lys Asn Glu Val Arg Ile His Ser Gly Ser Phe Gln Ser Gln Val
1535 1540 1545

Glu Leu Ser Asn Asp Gln Glu Lys Ala His Leu Asp Ile Ala Gly
1550 1555 1560

Ser Leu Glu Gly His Leu Arg Phe Leu Lys Asn Ile Ile Leu Pro
1565 1570 1575

Val Tyr Asp Lys Ser Leu Trp Asp Phe Leu Lys Leu Asp Val Thr
1580 1585 1590

Thr Ser Ile Gly Arg Arg Gln His Leu Arg Val Ser Thr Ala Phe
1595 1600 1605

Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser Phe Ser Ile Pro Val
1610 1615 1620

Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly Leu Lys Leu Asn
1625 1630 1635

Asp Leu Asn Ser Val Leu Val Met Pro Thr Phe His Val Pro Phe
1640 1645 1650

Thr Asp Leu Gln Val Pro Ser Cys Lys Leu Asp Phe Arg Glu Ile
1655 1660 1665

Gln Ile Tyr Lys Lys Leu Arg Thr Ser Ser Phe Ala Leu Asn Leu
1670 1675 1680

Pro Thr Leu Pro Glu Val Lys Phe Pro Glu Val Asp Val Leu Thr
1685 1690 1695

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Lys Tyr Ser Gln Pro Glu Asp Ser Leu Ile Pro Phe Phe Glu Ile
1700 1705 1710

Thr Val Pro Glu Ser Gln Leu Thr Val Ser Gln Phe Thr Leu Pro
1715 1720 1725

Lys Ser Val Ser Asp Gly Ile Ala Ala Leu Asp Leu Asn Ala Val
1730 1735 1740

Ala Asn Lys Ile Ala Asp Phe Glu Leu Pro Thr Ile Ile Val Pro
1745 1750 1755

Glu Gln Thr Ile Glu Ile Pro Ser Ile Lys Phe Ser Val Pro Ala
1760 1765 1770

Gly Ile Val Ile Pro Ser Phe Gln Ala Leu Thr Ala Arg Phe Glu
1775 1780 1785

Val Asp Ser Pro Val Tyr Asn Ala Thr Trp Ser Ala Ser Leu Lys
1790 1795 1800

Asn Lys Ala Asp Tyr Val Glu Thr Val Leu Asp Ser Thr Cys Ser
1805 1810 1815

Ser Thr Val Gln Phe Leu Glu Tyr Glu Leu Asn Val Leu Gly Thr
1820 1825 1830

His Lys Ile Glu Asp Gly Thr Leu Ala Ser Lys Thr Lys Gly Thr
1835 1840 1845

Leu Ala His Arg Asp Phe Ser Ala Glu Tyr Glu Glu Asp Gly Lys
1850 1855 1860

Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala His Leu Asn Ile
1865 1870 1875

Lys Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr Gln Lys Asp
1880 1885 1890

Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val Gly Thr
1895 1900 1905

Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp Asn
1910 1915 1920

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Phe Tyr Tyr Ser Pro Gln Ser Ser Pro Asp Lys Lys Leu Thr Ile
1925 1930 1935

Phe Lys Thr Glu Leu Arg Val Arg Glu Ser Asp Glu Glu Thr Gln
1940 1945 1950

Ile Lys Val Asn Trp Glu Glu Glu Ala Ala Ser Gly Leu Leu Thr
1955 1960 1965

Ser Leu Lys Asp Asn Val Pro Lys Ala Thr Gly Val Leu Tyr Asp
1970 1975 1980

Tyr Val Asn Lys Tyr His Trp Glu His Thr Gly Leu Thr Leu Arg
1985 1990 1995

Glu Val Ser Ser Lys Leu Arg Arg Asn Leu Gln Asn Asn Ala Glu
2000 2005 2010

Trp Val Tyr Gln Gly Ala Ile Arg Gln Ile Asp Asp Ile Asp Val
2015 2020 2025

Arg Phe Gln Lys Ala Ala Ser Gly Thr Thr Gly Thr Tyr Gln Glu
2030 2035 2040

Trp Lys Asp Lys Ala Gln Asn Leu Tyr Gln Glu Leu Leu Thr Gln
2045 2050 2055

Glu Gly Gln Ala Ser Phe Gln Gly Leu Lys Asp Asn Val Phe Asp
2060 2065 2070

Gly Leu Val Arg Val Thr Gln Lys Phe His Met Lys Val Lys His
2075 2080 2085

Leu Ile Asp Ser Leu Ile Asp Phe Leu Asn Phe Pro Arg Phe Gln
2090 2095 2100

Phe Pro Gly Lys Pro Gly Ile Tyr Thr Arg Glu Glu Leu Cys Thr
2105 2110 2115

Met Phe Ile Arg Glu Val Gly Thr Val Leu Ser Gln Val Tyr Ser
2120 2125 2130

Lys Val His Asn Gly Ser Glu Ile Leu Phe Ser Tyr Phe Gln Asp
2135 2140 2145

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Leu Val Ile Thr Leu Pro Phe Glu Leu Arg Lys His Lys Leu Ile
2150 2155 2160

Asp Val Ile Ser Met Tyr Arg Glu Leu Leu Lys Asp Leu Ser Lys
2165 2170 2175

Glu Ala Gln Glu Val Phe Lys Ala Ile Gln Ser Leu Lys Thr Thr
2180 2185 2190

Glu Val Leu Arg Asn Leu Gln Asp Leu Leu Gln Phe Ile Phe Gln
2195 2200 2205

Leu Ile Glu Asp Asn Ile Lys Gln Leu Lys Glu Met Lys Phe Thr
2210 2215 2220

Tyr Leu Ile Asn Tyr Ile Gln Asp Glu Ile Asn Thr Ile Phe Asn
2225 2230 2235

Asp Tyr Ile Pro Tyr Val Phe Lys Leu Leu Lys Glu Asn Leu Cys
2240 2245 2250

Leu Asn Leu His Lys Phe Asn Glu Phe Ile Gln Asn Glu Leu Gln
2255 2260 2265

Glu Ala Ser Gln Glu Leu Gln Gln Ile His Gln Tyr Ile Met Ala
2270 2275 2280

Leu Arg Glu Glu Tyr Phe Asp Pro Ser Ile Val Gly Trp Thr Val
2285 2290 2295

Lys Tyr Tyr Glu Leu Glu Glu Lys Ile Val Ser Leu Ile Lys Asn
2300 2305 2310

Leu Leu Val Ala Leu Lys Asp Phe His Ser Glu Tyr Ile Val Ser
2315 2320 2325

Ala Ser Asn Phe Thr Ser Gln Leu Ser Ser Gln Val Glu Gln Phe
2330 2335 2340

Leu His Arg Asn Ile Gln Glu Tyr Leu Ser Ile Leu Thr Asp Pro
2345 2350 2355

Asp Gly Lys Gly Lys Glu Lys Ile Ala Glu Leu Ser Ala Thr Ala

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2360 2365 2370

Gln Glu Ile Ile Lys Ser Gln Ala Ile Ala Thr Lys Lys Ile Ile
 2375 2380 2385

Ser Asp Tyr His Gln Gln Phe Arg Tyr Lys Leu Gln Asp Phe Ser
 2390 2395 2400

Asp Gln Leu Ser Asp Tyr Tyr Glu Lys Phe Ile Ala Glu Ser Lys
 2405 2410 2415

Arg Leu Ile Asp Leu Ser Ile Gln Asn Tyr His Thr Phe Leu Ile
 2420 2425 2430

Tyr Ile Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr Val Met
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Asn Pro Tyr Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile Leu
 2450 2455 2460

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<400> 5

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Ser His Leu Gly Lys Glu Asp Phe Thr Ser Leu Ser Leu Val Leu Tyr
 35 40 45

Ser Arg Lys Phe Pro Ser Gly Thr Phe Glu Gln Val Ser Gln Leu Val
 50 55 60

Lys Glu Val Val Ser Leu Thr Glu Ala Cys Cys Ala Glu Gly Ala Asp
 65 70 75 80

Pro Asp Cys Tyr Asp Thr Arg Thr Ser Ala Leu Ser Ala Lys Ser Cys
 85 90 95

Glu Ser Asn Ser Pro Phe Pro Val His Pro Gly Thr Ala Glu Cys Cys

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Thr Lys Glu Gly Leu Glu Arg Lys Leu Cys Met Ala Ala Leu Lys His
115 120 125Gln Pro Gln Glu Phe Pro Thr Tyr Val Glu Pro Thr Asn Asp Glu Ile
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145 150 155 160Trp Glu Tyr Ser Thr Asn Tyr Glu Gln Ala Pro Leu Ser Leu Leu Val
165 170 175Ser Tyr Thr Lys Ser Tyr Leu Ser Met Val Gly Ser Cys Cys Thr Ser
180 185 190Ala Ser Pro Thr Val Cys Phe Leu Lys Glu Arg Leu Gln Leu Lys His
195 200 205Leu Ser Leu Leu Thr Thr Leu Ser Asn Arg Val Cys Ser Gln Tyr Ala
210 215 220Ala Tyr Gly Glu Lys Lys Ser Arg Leu Ser Asn Leu Ile Lys Leu Ala
225 230 235 240Gln Lys Val Pro Thr Ala Asp Leu Glu Asp Val Leu Pro Leu Ala Glu
245 250 255Asp Ile Thr Asn Ile Leu Ser Lys Cys Cys Glu Ser Ala Ser Glu Asp
260 265 270Cys Met Ala Lys Glu Leu Pro Glu His Thr Val Lys Leu Cys Asp Asn
275 280 285Leu Ser Thr Lys Asn Ser Lys Phe Glu Asp Cys Cys Gln Glu Lys Thr
290 295 300Ala Met Asp Val Phe Val Cys Thr Tyr Phe Met Pro Ala Ala Gln Leu
305 310 315 320Pro Glu Leu Pro Asp Val Arg Leu Pro Thr Asn Lys Asp Val Cys Asp
325 330 335

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Pro Gly Asn Thr Lys Val Met Asp Lys Tyr Thr Phe Glu Leu Ser Arg
340 345 350

Arg Thr His Leu Pro Glu Val Phe Leu Ser Lys Val Leu Glu Pro Thr
355 360 365

Leu Lys Ser Leu Gly Glu Cys Cys Asp Val Glu Asp Ser Thr Thr Cys
370 375 380

Phe Asn Ala Lys Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile
385 390 395 400

Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr
405 410 415

Glu Tyr Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu
420 425 430

Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe
435 440 445

Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser
450 455 460

Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
465 470

<210> 6
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<213> Homo sapiens

<400> 6

Met Lys Arg Val Leu Val Leu Leu Ala Val Ala Phe Gly His Ala
1 5 10 15

Leu Glu Arg Gly Arg Asp Tyr Glu Lys Asn Lys Val Cys Lys Glu Phe
20 25 30

Ser His Leu Gly Lys Glu Asp Phe Thr Ser Leu Ser Leu Val Leu Tyr
35 40 45

Ser Arg Lys Phe Pro Ser Gly Thr Phe Glu Gln Val Ser Gln Leu Val
50 55 60

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Lys Glu Val Val Ser Leu Thr Glu Ala Cys Cys Ala Glu Gly Ala Asp
65 70 75 80

Pro Asp Cys Tyr Asp Thr Arg Thr Ser Ala Leu Ser Ala Lys Ser Cys
85 90 95

Glu Ser Asn Ser Pro Phe Pro Val His Pro Gly Thr Ala Glu Cys Cys
100 105 110

Thr Lys Glu Gly Leu Glu Arg Lys Leu Cys Met Ala Ala Leu Lys His
115 120 125

Gln Pro Gln Glu Phe Pro Thr Tyr Val Glu Pro Thr Asn Asp Glu Ile
130 135 140

Cys Glu Ala Phe Arg Lys Asp Pro Lys Glu Tyr Ala Asn Gln Phe Met
145 150 155 160

Trp Glu Tyr Ser Thr Asn Tyr Gly Gln Ala Pro Leu Ser Leu Leu Val
165 170 175

Ser Tyr Thr Lys Ser Tyr Leu Ser Met Val Gly Ser Cys Cys Thr Ser
180 185 190

Ala Ser Pro Thr Val Cys Phe Leu Lys Glu Arg Leu Gln Leu Lys His
195 200 205

Leu Ser Leu Leu Thr Thr Leu Ser Asn Arg Val Cys Ser Gln Tyr Ala
210 215 220

Ala Tyr Gly Glu Lys Lys Ser Arg Leu Ser Asn Leu Ile Lys Leu Ala
225 230 235 240

Gln Lys Val Pro Thr Ala Asp Leu Glu Asp Val Leu Pro Leu Ala Glu
245 250 255

Asp Ile Thr Asn Ile Leu Ser Lys Cys Cys Glu Ser Ala Ser Glu Asp
260 265 270

Cys Met Ala Lys Glu Leu Pro Glu His Thr Val Lys Leu Cys Asp Asn
275 280 285

Leu Ser Thr Lys Asn Ser Lys Phe Glu Asp Cys Cys Gln Glu Lys Thr
290 295 300

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Ala Met Asp Val Phe Val Cys Thr Tyr Phe Met Pro Ala Ala Gln Leu
305 310 315 320

Pro Glu Leu Pro Asp Val Glu Leu Pro Thr Asn Lys Asp Val Cys Asp
325 330 335

Pro Gly Asn Thr Lys Val Met Asp Lys Tyr Thr Phe Glu Leu Ser Arg
340 345 350

Arg Thr His Leu Pro Glu Val Phe Leu Ser Lys Val Leu Glu Pro Thr
355 360 365

Leu Lys Ser Leu Gly Glu Cys Cys Asp Val Glu Asp Ser Thr Thr Cys
370 375 380

Phe Asn Ala Lys Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile
385 390 395 400

Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr
405 410 415

Glu Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu
420 425 430

Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe
435 440 445

Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser
450 455 460

Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
465 470

<210> 7
<211> 318
<212> PRT
<213> Homo sapiens

<400> 7

Met Ala Ser Pro Gly Cys Leu Leu Cys Val Leu Gly Leu Leu Leu Cys
1 5 10 15

Gly Ala Ala Ser Leu Glu Leu Ser Arg Pro His Gly Asp Thr Ala Lys
20 25 30

55382-23.ST25.txt

Lys Pro Ile Ile Gly Ile Leu Met Gln Lys Cys Arg Asn Lys Val Met
35 40 45

Lys Asn Tyr Gly Arg Tyr Tyr Ile Ala Ala Ser Tyr Val Lys Tyr Leu
50 55 60

Glu Ser Ala Gly Ala Arg Val Val Pro Val Arg Leu Asp Leu Thr Glu
65 70 75 80

Lys Asp Tyr Glu Ile Leu Phe Lys Ser Ile Asn Gly Ile Leu Phe Pro
85 90 95

Gly Gly Ser Val Asp Leu Arg Arg Ser Asp Tyr Ala Lys Val Ala Lys
100 105 110

Ile Phe Tyr Asn Leu Ser Ile Gln Ser Phe Asp Asp Gly Asp Tyr Phe
115 120 125

Pro Val Trp Gly Thr Cys Leu Gly Phe Glu Glu Leu Ser Leu Leu Ile
130 135 140

Ser Gly Glu Cys Leu Leu Thr Ala Thr Asp Thr Val Asp Val Ala Met
145 150 155 160

Pro Leu Asn Phe Thr Gly Gly Gln Leu His Ser Arg Met Phe Gln Asn
165 170 175

Phe Pro Thr Glu Leu Leu Ser Leu Ala Val Glu Pro Leu Thr Ala
180 185 190

Asn Phe His Lys Trp Ser Leu Ser Val Lys Asn Phe Thr Met Asn Glu
195 200 205

Lys Leu Lys Lys Phe Phe Asn Val Leu Thr Thr Asn Thr Asp Gly Lys
210 215 220

Ile Glu Phe Ile Ser Thr Met Glu Gly Tyr Lys Tyr Pro Val Tyr Gly
225 230 235 240

Val Gln Trp His Pro Glu Lys Ala Pro Tyr Glu Trp Lys Asn Leu Asp
245 250 255

Gly Ile Ser His Ala Pro Asn Ala Val Lys Thr Ala Phe Tyr Leu Ala
260 265 270

55382-23.ST25.txt

Glu Phe Phe Val Asn Glu Ala Arg Lys Asn Asn His His Phe Lys Ser
275 280 285

Glu Ser Glu Glu Lys Ala Leu Ile Tyr Gln Phe Ser Pro Ile Tyr
290 295 300

Thr Gly Asn Ile Ser Ser Phe Gln Gln Cys Tyr Ile Phe Asp
305 310 315

<210> 8
<211> 709
<212> PRT
<213> Homo sapiens

<400> 8

Met Ala Thr Ala Gly Gly Ser Gly Ala Asp Pro Gly Ser Arg Gly
1 5 10 15

Leu Leu Arg Leu Leu Ser Phe Cys Val Leu Leu Ala Gly Leu Cys Arg
20 25 30

Gly Asn Ser Val Glu Arg Lys Ile Tyr Ile Pro Leu Asn Lys Thr Ala
35 40 45

Pro Cys Val Arg Leu Leu Asn Ala Thr His Gln Ile Gly Cys Gln Ser
50 55 60

Ser Ile Ser Gly Asp Thr Gly Val Ile His Val Val Glu Lys Glu Glu
65 70 75 80

Asp Leu Gln Trp Val Leu Thr Asp Gly Pro Asn Pro Pro Tyr Met Val
85 90 95

Leu Leu Glu Ser Lys His Phe Thr Arg Asp Leu Met Glu Lys Leu Lys
100 105 110

Gly Arg Thr Ser Arg Ile Ala Gly Leu Ala Val Ser Leu Thr Lys Pro
115 120 125

Ser Pro Ala Ser Gly Phe Ser Pro Ser Val Gln Cys Pro Asn Asp Gly
130 135 140

Phe Gly Val Tyr Ser Asn Ser Tyr Gly Pro Glu Phe Ala His Cys Arg
145 150 155 160

55382-23.ST25.txt

Glu Ile Gln Trp Asn Ser Leu Gly Asn Gly Leu Ala Tyr Glu Asp Phe
165 170 175

Ser Phe Pro Ile Phe Leu Leu Glu Asp Glu Asn Glu Thr Lys Val Ile
180 185 190

Lys Gln Cys Tyr Gln Asp His Asn Leu Ser Gln Asn Gly Ser Ala Pro
195 200 205

Thr Phe Pro Leu Cys Ala Met Gln Leu Phe Ser His Met His Ala Val
210 215 220

Ile Ser Thr Ala Thr Cys Met Arg Arg Ser Ser Ile Gln Ser Thr Phe
225 230 235 240

Ser Ile Asn Pro Glu Ile Val Cys Asp Pro Leu Ser Asp Tyr Asn Val
245 250 255

Trp Ser Met Leu Lys Pro Ile Asn Thr Thr Gly Thr Leu Lys Pro Asp
260 265 270

Asp Arg Val Val Val Ala Ala Thr Arg Leu Asp Ser Arg Ser Phe Phe
275 280 285

Trp Asn Val Ala Pro Gly Ala Glu Ser Ala Val Ala Ser Phe Val Thr
290 295 300

Gln Leu Ala Ala Ala Glu Ala Leu Gln Lys Ala Pro Asp Val Thr Thr
305 310 315 320

Leu Pro Arg Asn Val Met Phe Val Phe Phe Gln Gly Glu Thr Phe Asp
325 330 335

Tyr Ile Gly Ser Ser Arg Met Val Tyr Asp Met Glu Lys Gly Lys Phe
340 345 350

Pro Val Gln Leu Glu Asn Val Asp Ser Phe Val Glu Leu Gly Gln Val
355 360 365

Ala Leu Arg Thr Ser Leu Glu Leu Trp Met His Thr Asp Pro Val Ser
370 375 380

Gln Lys Asn Glu Ser Val Arg Asn Gln Val Glu Asp Leu Leu Ala Thr

385	390	395	400
Leu Glu Lys Ser Gly Ala Gly Val Pro Ala Val Ile Leu Arg Arg Pro			
405	410	415	
Asn Gln Ser Gln Pro Leu Pro Pro Ser Ser Leu Gln Arg Phe Leu Arg			
420	425	430	
Ala Arg Asn Ile Ser Gly Val Val Leu Ala Asp His Ser Gly Ala Phe			
435	440	445	
His Asn Lys Tyr Tyr Gln Ser Ile Tyr Asp Thr Ala Glu Asn Ile Asn			
450	455	460	
Val Ser Tyr Pro Glu Trp Leu Ser Pro Glu Glu Asp Leu Asn Phe Val			
465	470	475	480
Thr Asp Thr Ala Lys Ala Leu Ala Asp Val Ala Thr Val Leu Gly Arg			
485	490	495	
Ala Leu Tyr Glu Leu Ala Gly Gly Thr Asn Phe Ser Asp Thr Val Gln			
500	505	510	
Ala Asp Pro Gln Thr Val Thr Arg Leu Leu Tyr Gly Phe Leu Ile Lys			
515	520	525	
Ala Asn Asn Ser Trp Phe Gln Ser Ile Leu Arg Gln Asp Leu Arg Ser			
530	535	540	
Tyr Leu Gly Asp Gly Pro Leu Gln His Tyr Ile Ala Val Ser Ser Pro			
545	550	555	560
Thr Asn Thr Thr Tyr Val Val Gln Tyr Ala Leu Ala Asn Leu Thr Gly			
565	570	575	
Thr Val Val Asn Leu Thr Arg Glu Gln Cys Gln Asp Pro Ser Lys Val			
580	585	590	
Pro Ser Glu Asn Lys Asp Leu Tyr Glu Tyr Ser Trp Val Gln Gly Pro			
595	600	605	
Leu His Ser Asn Glu Thr Asp Arg Leu Pro Arg Cys Val Arg Ser Thr			
610	615	620	

55382-23.ST25.txt

Ala Arg Leu Ala Arg Ala Leu Ser Pro Ala Phe Glu Leu Ser Gln Trp
625 630 635 640

Ser Ser Thr Glu Tyr Ser Thr Trp Thr Glu Ser Arg Trp Lys Asp Ile
645 650 655

Arg Ala Arg Ile Phe Leu Ile Ala Ser Lys Glu Leu Glu Leu Ile Thr
660 665 670

Leu Thr Val Gly Phe Gly Ile Leu Ile Phe Ser Leu Ile Val Thr Tyr
675 680 685

Cys Ile Asn Ala Lys Ala Asp Val Leu Phe Ile Ala Pro Arg Glu Pro
690 695 700

Gly Ala Val Ser Tyr
705

<210> 9
<211> 347
<212> PRT
<213> Homo sapiens

<400> 9

Met Ala Gln Ser Arg Asp Gly Gly Asn Pro Phe Ala Glu Pro Ser Glu
1 5 10 15

Leu Asp Asn Pro Phe Gln Asp Pro Ala Val Ile Gln His Arg Pro Ser
20 25 30

Arg Gln Tyr Ala Thr Leu Asp Val Tyr Asn Pro Phe Glu Thr Arg Glu
35 40 45

Pro Pro Pro Ala Tyr Glu Pro Pro Ala Pro Ala Pro Leu Pro Pro Pro
50 55 60

Ser Ala Pro Ser Leu Gln Pro Ser Arg Lys Leu Ser Pro Thr Glu Pro
65 70 75 80

Lys Asn Tyr Gly Ser Tyr Ser Thr Gln Ala Ser Ala Ala Ala Thr
85 90 95

Ala Glu Leu Leu Lys Lys Gln Glu Glu Leu Asn Arg Lys Ala Glu Glu
100 105 110

55382-23.ST25.txt

Leu Asp Arg Arg Glu Arg Glu Leu Gln His Ala Ala Leu Gly Gly Thr
115 120 125

Ala Thr Arg Gln Asn Asn Trp Pro Pro Leu Pro Ser Phe Cys Pro Val
130 135 140

Gln Pro Cys Phe Phe Gln Asp Ile Ser Met Glu Ile Pro Gln Glu Phe
145 150 155 160

Gln Lys Thr Val Ser Thr Met Tyr Tyr Leu Trp Met Cys Ser Thr Leu
165 170 175

Ala Leu Leu Leu Asn Phe Leu Ala Cys Leu Ala Ser Phe Cys Val Glu
180 185 190

Thr Asn Asn Gly Ala Gly Phe Gly Leu Ser Ile Leu Trp Val Leu Leu
195 200 205

Phe Thr Pro Cys Ser Phe Val Cys Trp Tyr Arg Pro Met Tyr Lys Ala
210 215 220

Phe Arg Ser Asp Ser Ser Phe Asn Phe Phe Val Phe Phe Phe Ile Phe
225 230 235 240

Phe Val Gln Asp Val Leu Phe Val Leu Gln Ala Ile Gly Ile Pro Gly
245 250 255

Trp Gly Phe Ser Gly Trp Ile Ser Ala Leu Val Val Pro Lys Gly Asn
260 265 270

Thr Ala Val Ser Val Leu Met Leu Leu Val Ala Leu Leu Phe Thr Gly
275 280 285

Ile Ala Val Leu Gly Ile Val Met Leu Lys Arg Ile His Ser Leu Tyr
290 295 300

Arg Arg Thr Gly Ala Ser Phe Gln Lys Ala Gln Gln Glu Phe Ala Ala
305 310 315 320

Gly Val Phe Ser Asn Pro Ala Val Arg Thr Ala Ala Ala Asn Ala Ala
325 330 335

Ala Gly Ala Ala Glu Asn Ala Phe Arg Ala Pro
340 345

55382-23.ST25.txt

<210> 10
<211> 321
<212> PRT
<213> Homo sapiens

<400> 10

Met Ala Gln Ser Arg Asp Gly Gly Asn Pro Phe Ala Glu Pro Ser Glu
1 5 10 15

Leu Asp Asn Pro Phe Gln Pro Pro Pro Ala Tyr Glu Pro Pro Ala Pro
20 25 30

Ala Pro Leu Pro Pro Pro Ser Ala Pro Ser Leu Gln Pro Ser Arg Lys
35 40 45

Leu Ser Pro Thr Glu Pro Lys Asn Tyr Gly Ser Tyr Ser Thr Gln Ala
50 55 60

Ser Ala Ala Ala Ala Thr Ala Glu Leu Leu Lys Lys Gln Glu Glu Leu
65 70 75 80

Asn Arg Lys Ala Glu Glu Leu Asp Arg Arg Glu Arg Glu Leu Gln His
85 90 95

Ala Ala Leu Gly Gly Thr Ala Thr Arg Gln Asn Asn Trp Pro Pro Leu
100 105 110

Pro Ser Phe Cys Pro Val Gln Pro Cys Phe Phe Gln Asp Ile Ser Met
115 120 125

Glu Ile Pro Gln Glu Phe Gln Lys Thr Val Ser Thr Met Tyr Tyr Leu
130 135 140

Trp Met Cys Ser Thr Leu Ala Leu Leu Asn Phe Leu Ala Cys Leu
145 150 155 160

Ala Ser Phe Cys Val Glu Thr Asn Asn Gly Ala Gly Phe Gly Leu Ser
165 170 175

Ile Leu Trp Val Leu Leu Phe Thr Pro Cys Ser Phe Val Cys Trp Tyr
180 185 190

Arg Pro Met Tyr Lys Ala Phe Arg Ser Asp Ser Ser Phe Asn Phe Phe
195 200 205

55382-23.ST25.txt

Val Phe Phe Phe Ile Phe Phe Val Gln Asp Val Leu Phe Val Leu Gln
210 215 220

Ala Ile Gly Ile Pro Gly Trp Gly Phe Ser Gly Trp Ile Ser Ala Leu
225 230 235 240

Val Val Pro Lys Gly Asn Thr Ala Val Ser Val Leu Met Leu Leu Val
245 250 255

Ala Leu Leu Phe Thr Gly Ile Ala Val Leu Gly Ile Val Met Leu Lys
260 265 270

Arg Ile His Ser Leu Tyr Arg Arg Thr Gly Ala Ser Phe Gln Lys Ala
275 280 285

Gln Gln Glu Phe Ala Ala Gly Val Phe Ser Asn Pro Ala Val Arg Thr
290 295 300

Ala Ala Ala Asn Ala Ala Gly Ala Ala Glu Asn Ala Phe Arg Ala
305 310 315 320

Pro

<210> 11
<211> 541
<212> PRT
<213> Homo sapiens

<400> 11

Met Lys Phe Leu Ile Phe Ala Phe Phe Gly Gly Val His Leu Leu Ser
1 5 10 15

Leu Cys Ser Gly Lys Ala Ile Cys Lys Asn Gly Ile Ser Lys Arg Thr
20 25 30

Phe Glu Glu Ile Lys Glu Glu Ile Ala Ser Cys Gly Asp Val Ala Lys
35 40 45

Ala Ile Ile Asn Leu Ala Val Tyr Gly Lys Ala Gln Asn Arg Ser Tyr
50 55 60

Glu Arg Leu Ala Leu Leu Val Asp Thr Val Gly Pro Arg Leu Ser Gly
65 70 75 80

55382-23.ST25.txt

Ser Lys Asn Leu Glu Lys Ala Ile Gln Ile Met Tyr Gln Asn Leu Gln
85 90 95

Gln Asp Gly Leu Glu Lys Val His Leu Glu Pro Val Arg Ile Pro His
100 105 110

Trp Glu Arg Gly Glu Glu Ser Ala Val Met Leu Glu Pro Arg Ile His
115 120 125

Lys Ile Ala Ile Leu Gly Leu Gly Ser Ser Ile Gly Thr Pro Pro Glu
130 135 140

Gly Ile Thr Ala Glu Val Leu Val Val Thr Ser Phe Asp Glu Leu Gln
145 150 155 160

Arg Arg Ala Ser Glu Ala Arg Gly Lys Ile Val Val Tyr Asn Gln Pro
165 170 175

Tyr Ile Asn Tyr Ser Arg Thr Val Gln Tyr Arg Thr Gln Gly Ala Val
180 185 190

Glu Ala Ala Lys Val Gly Ala Leu Ala Ser Leu Ile Arg Ser Val Ala
195 200 205

Ser Phe Ser Ile Tyr Ser Pro His Thr Gly Ile Gln Glu Tyr Gln Asp
210 215 220

Gly Val Pro Lys Ile Pro Thr Ala Cys Ile Thr Val Glu Asp Ala Glu
225 230 235 240

Met Met Ser Arg Met Ala Ser His Gly Ile Lys Ile Val Ile Gln Leu
245 250 255

Lys Met Gly Ala Lys Thr Tyr Pro Asp Thr Asp Ser Phe Asn Thr Val
260 265 270

Ala Glu Ile Thr Gly Ser Lys Tyr Pro Glu Gln Val Val Leu Val Ser
275 280 285

Gly His Leu Asp Ser Trp Asp Val Gly Gln Gly Ala Met Asp Asp Gly
290 295 300

Gly Gly Ala Phe Ile Ser Trp Glu Ala Leu Ser Leu Ile Lys Asp Leu
305 310 315 320

55382-23.ST25.txt

Gly Leu Arg Pro Lys Arg Thr Leu Arg Leu Val Leu Trp Thr Ala Glu
325 330 335

Glu Gln Gly Gly Val Gly Ala Phe Gln Tyr Tyr Gln Leu His Lys Val
340 345 350

Asn Ile Ser Asn Tyr Ser Leu Val Met Glu Ser Asp Ala Gly Thr Phe
355 360 365

Leu Pro Thr Gly Leu Gln Phe Thr Gly Ser Glu Lys Ala Arg Ala Ile
370 375 380

Met Glu Glu Val Met Ser Leu Leu Gln Pro Leu Asn Ile Thr Gln Val
385 390 395 400

Leu Ser His Gly Glu Gly Thr Asp Ile Asn Phe Trp Ile Gln Ala Gly
405 410 415

Val Pro Gly Ala Ser Leu Leu Asp Asp Leu Tyr Lys Tyr Phe Phe Phe
420 425 430

His His Ser His Gly Asp Thr Met Thr Val Met Asp Pro Ser Arg Trp
435 440 445

Met Leu Leu Leu Leu Phe Gly Leu Leu Phe Leu Met Leu Leu Gln Thr
450 455 460

Trp Lys Lys Cys Cys Leu Gly Pro Arg Asn Ser Lys Lys Glu Thr Phe
465 470 475 480

Ser Cys Phe Trp Pro Gly Ile Leu Gly Leu Gln Leu Trp Lys Thr Pro
485 490 495

Leu His Ile Thr Ile Ser Ser Asn Ser Ser Ser Lys His Asn Ser Ile
500 505 510

Ser Cys Phe Leu Leu Ser Phe Leu Ile Leu Ser Lys Phe Ser Asp
515 520 525

Ser Arg Lys Arg Asn His Ser Pro Leu Pro Pro Thr Thr
530 535 540

55382-23.ST25.txt

<211> 441
<212> PRT
<213> Homo sapiens

<400> 12

Met Val Pro Pro Lys Leu His Val Leu Phe Cys Leu Cys Gly Cys Leu
1 5 10 15

Ala Val Val Tyr Pro Phe Asp Trp Gln Tyr Ile Asn Pro Val Ala His
20 25 30

Met Lys Ser Ser Ala Trp Val Asn Lys Ile Gln Val Leu Met Ala Ala
35 40 45

Ala Ser Phe Gly Gln Thr Lys Ile Pro Arg Gly Asn Gly Pro Tyr Ser
50 55 60

Val Gly Cys Thr Asp Leu Met Phe Asp His Thr Asn Lys Gly Thr Phe
65 70 75 80

Leu Arg Leu Tyr Tyr Pro Ser Gln Asp Asn Asp Arg Leu Asp Thr Leu
85 90 95

Trp Ile Pro Asn Lys Glu Tyr Phe Trp Gly Leu Ser Lys Phe Leu Gly
100 105 110

Thr His Trp Leu Met Gly Asn Ile Leu Arg Leu Leu Phe Gly Ser Met
115 120 125

Thr Thr Pro Ala Asn Trp Asn Ser Pro Leu Arg Pro Gly Glu Lys Tyr
130 135 140

Pro Leu Val Val Phe Ser His Gly Leu Gly Ala Phe Arg Thr Leu Tyr
145 150 155 160

Ser Ala Ile Gly Ile Asp Leu Ala Ser His Gly Phe Ile Val Ala Ala
165 170 175

Val Glu His Arg Asp Arg Ser Ala Ser Ala Thr Tyr Tyr Phe Lys Asp
180 185 190

Gln Ser Ala Ala Glu Ile Gly Asp Lys Ser Trp Leu Tyr Leu Arg Thr
195 200 205

Leu Lys Gln Glu Glu Glu Thr His Ile Arg Asn Glu Gln Val Arg Gln

55382-23.ST25.txt

210 215 220

Arg Ala Lys Glu Cys Ser Gln Ala Leu Ser Leu Ile Leu Asp Ile Asp
225 230 235 240His Gly Lys Pro Val Lys Asn Ala Leu Asp Leu Lys Phe Asp Met Glu
245 250 255Gln Leu Lys Asp Ser Ile Asp Arg Glu Lys Ile Ala Val Ile Gly His
260 265 270Ser Phe Gly Gly Ala Thr Val Ile Gln Thr Leu Ser Glu Asp Gln Arg
275 280 285Phe Arg Cys Gly Ile Ala Leu Asp Ala Trp Met Phe Pro Leu Gly Asp
290 295 300Glu Val Tyr Ser Arg Ile Pro Gln Pro Leu Phe Phe Ile Asn Ser Glu
305 310 315 320Tyr Phe Gln Tyr Pro Ala Asn Ile Ile Lys Met Lys Lys Cys Tyr Ser
325 330 335Pro Asp Lys Glu Arg Lys Met Ile Thr Ile Arg Gly Ser Val His Gln
340 345 350Asn Phe Ala Asp Phe Thr Phe Ala Thr Gly Lys Ile Ile Gly His Met
355 360 365Leu Lys Leu Lys Gly Asp Ile Asp Ser Asn Val Ala Ile Asp Leu Ser
370 375 380Asn Lys Ala Ser Leu Ala Phe Leu Gln Lys His Leu Gly Leu His Lys
385 390 395 400Asp Phe Asp Gln Trp Asp Cys Leu Ile Glu Gly Asp Asp Glu Asn Leu
405 410 415Ile Pro Gly Thr Asn Ile Asn Thr Thr Asn Gln His Ile Met Leu Gln
420 425 430Asn Ser Ser Gly Ile Glu Lys Tyr Asn
435 440

55382-23.ST25.txt

<210> 13
<211> 212
<212> PRT
<213> Homo sapiens

<400> 13

Met Met Gly Ile Pro Ile Arg Lys Phe Ile Cys Ala Ser Asn Gln Asn
1 5 10 15

His Val Leu Thr Asp Phe Ile Lys Thr Gly His Tyr Asp Leu Arg Glu
20 25 30

Arg Lys Leu Ala Gln Thr Phe Ser Pro Ser Ile Asp Ile Leu Lys Ser
35 40 45

Ser Asn Leu Glu Arg His Leu His Leu Met Ala Asn Asn Arg Leu Glu
50 55 60

Ser Gln His His Phe Gln Ile Glu Lys Ala Leu Val Glu Lys Leu Gln
65 70 75 80

Gln Asp Phe Val Ala Asp Trp Cys Ser Glu Gly Glu Cys Leu Ala Ala
85 90 95

Ile Asn Ser Thr Tyr Asn Thr Ser Gly Tyr Ile Leu Asp Pro His Thr
100 105 110

Ala Val Ala Lys Val Val Ala Asp Arg Val Gln Asp Lys Thr Cys Pro
115 120 125

Val Ile Ile Ser Ser Thr Ala His Tyr Ser Lys Phe Ala Pro Ala Ile
130 135 140

Met Gln Ala Leu Lys Ile Lys Glu Ile Asn Glu Thr Ser Ser Gln
145 150 155 160

Leu Tyr Leu Leu Gly Ser Tyr Asn Ala Leu Pro Pro Leu His Glu Ala
165 170 175

Leu Leu Glu Arg Thr Lys Gln Gln Glu Lys Met Glu Tyr Gln Val Cys
180 185 190

Ala Ala Asp Met Asn Val Leu Lys Ser His Val Glu Gln Leu Val Gln
195 200 205

55382-23.ST25.txt

Asn Gln Phe Ile
210

<210> 14
<211> 14
<212> PRT
<213> Homo sapiens

<400> 14

Cys Ser Asp Thr Ser Pro Asp Thr Glu Glu Ser Tyr Ser Asp
1 5 10

<210> 15
<211> 15
<212> PRT
<213> Homo sapiens

<400> 15

Cys Ser Asp Leu Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu
1 5 10 15

<210> 16
<211> 9
<212> PRT
<213> Homo sapiens

<400> 16

Cys Ala Glu Glu Glu Lys Glu Glu Leu
1 5